

REMARKS

Claims 1-25 are pending in the application. Claims 1, 7, 12, 19, and 23 are independent. Claims 23-25 have been withdrawn from consideration. By the foregoing Amendment, Applicants have amended claims 1, 2, 7, 12, and 19. These changes are believed to introduce no new matter and their entry is respectfully requested.

Rejection of Claims 1-4 Under 35 U.S.C. §102(b)

In the Office Action, the Examiner rejected claims 1-4 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,387,808 to Schlitz et al. (hereinafter "Schlitz"). A claim is anticipated only if each and every element of the claim is found, either expressly or inherently, in a reference. (MPEP §2131 *citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987)). The identical invention must be shown in as complete detail as is contained in the claim. *Id. citing Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989)). Applicants respectfully traverse the rejections.

Embodiments of the present invention are directed to fabrication of a micro-electrical-mechanical system (MEMS) device, such as a vibrator, whose surface is not planar but includes fingers of a sort, each of which includes a weight (*i.e.*, length-height-width). The weights of the fingers should be uniform. Amended claim 1 recites in pertinent part "***fabricating a micro-electrical-mechanical system (MEMS) device*** by: forming a layer of material on a silicon wafer, the silicon wafer having variations in surface topology comprising at least one thick region and at least one thin region, the layer of material having variations in surface topology comprising at least one ***thick regions*** and at least one ***thin region*** corresponding to the thick regions and the thin regions of the wafer, respectively; and forming at least one ***narrow region*** and at least one ***wide region*** in the layer of material, the narrow regions and the wide regions ***corresponding to the thick regions and the thin regions*** of the wafer, respectively" (emphasis added). Support for these changes can be found in Applicants' Specification at paragraph [0030].

Applicants respectfully submit that Schlitz is not properly applied to the claimed invention. Schlitz appears to be directed to "a method of correcting topographical effects on a ***microelectronic substrate***" (emphasis added) (see Abstract). The problem addressed in Schlitz is

that certain “zones of the substrate having very small patterns are excluded because of the reduction in the size of the patterns in the resin (see FIG. 3b) due to the reduction in the size of the openings 24 in the mask 22. If these zones are large, they give rise to a phenomenon similar to the *dishing effect* encountered in pure mechanical and chemical polishing” (emphasis added). (Col. 3, lines 42-49). The solution proposed by Schlitz is a chemical and mechanical planarization (*CMP*) process that uses a resin process to remove topography and make a planar surface on the microelectronic substrate. In other words, Schlitz is attempting to make a microelectronic substrate flat. Schlitz does not address *micro-electrical-mechanical system (MEMS) devices*, but is limited to *semiconductor devices*. Moreover, Schlitz is not interested in maintaining its surface non-planar. Applicant respectfully submits therefore that Schlitz is not properly applied to the claimed invention.

Even, assuming for the sake of argument, that Schlitz is properly applied to the claimed invention, Applicants respectfully submit that Schlitz fails to show the identical invention as that of the claimed invention. For example, Schlitz fails to teach “*fabricating a micro-electrical-mechanical system (MEMS) device*.” As discussed above, this is because Schlitz is not concerned with *micro-electrical-mechanical system (MEMS) devices*, but with *semiconductor devices*. Because Schlitz is not properly applied to and/or fails to teach each and every element of the claimed invention, Applicants therefore respectfully submit that claim 1 is patentable over Schlitz.

Claims 2-4 properly depend from claim 1, which Applicants respectfully submit is patentable. Accordingly, Applicants respectfully submit that claims 2-4 are patentable for at least the same reasons that claim 1 is patentable. (MPEP §2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)). Accordingly, Applicants respectfully request that the Examiner reconsider and remove the rejection to claims 1-4.

Rejection of Claims 1 and 3 Under 35 U.S.C. §102(b)

In the Office Action, the Examiner rejected claims 1 and 3 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,976,769 to Chapman (hereinafter “Chapman”). Applicants respectfully traverse the rejections.

Amended claim 1 recites in pertinent part “*fabricating a micro-electrical-mechanical system (MEMS) device*” (emphasis added). Support for these changes can be found in Applicants’ Specification at paragraph [0030].

Applicants respectfully submit that Chapman is not properly applied to claim 1. Chapman appears to be directed to “fabrication of *semiconductor devices*” (emphasis added) (see Background). Chapman also addresses the problem of lack of planarity. The solution proposed in Chapman is to deposit a titanium nitride TiN antireflective coating or other buried antireflective coating (BARC) to control uniformity of an electronic circuit. In other words, Chapman is attempting to make circuits on semiconductor substrate flat. Chapman does not address *micro-electrical-mechanical system (MEMS) devices*, but is limited to *semiconductor devices*. Moreover, Chapman is not interested in maintaining its surface non-planar. Applicant respectfully submits therefore that Chapman is not properly applied to claim 1.

Even, assuming for the sake of argument, that Chapman is properly applied to claim 1, Applicants respectfully submit that Chapman fails to show the identical invention as that of claim 1. For example, Chapman fails to teach “*fabricating a micro-electrical-mechanical system (MEMS) device*.” As discussed above, this is because Chapman is not concerned with *micro-electrical-mechanical system (MEMS) devices*, but with *semiconductor devices*. Because Chapman is not properly applied to and/or fails to teach each and every element of the claimed invention, Applicants therefore respectfully submit that claim 1 is patentable over Chapman.

Claim 3 properly depends from claim 1, which Applicants respectfully submit is patentable. Accordingly, Applicants respectfully submit that claim 3 is patentable for at least the same reasons that claim 1 is patentable. (MPEP §2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)). Accordingly, Applicants respectfully request that the Examiner reconsider and remove the rejection to claims 1 and 3.

Rejection of Claims 5-6 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 5-6 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of U.S. Patent No. 5,502,564 to Ledger. (hereinafter

“Ledger”). To establish a *prima facie* case of obviousness, an Examiner must show three things: (1) that there is some suggestion or motivation to modify a reference or combine reference teachings to arrive at the claimed invention, (2) that there must be a reasonable expectation of success, and (3) that the references teach or suggest each and every element of the claimed invention. (MPEP §2143.) Applicants respectfully traverse the rejection.

Claims 5-6 properly depend from claim 1, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claims 5-6 are patentable as well. (See MPEP §2143.03 (citing *In re Fine*.) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 5-6.

Rejection of Claims 7-10 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 7-10 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of U.S. Patent No. 6,437,903 to Kozhukh et al. (hereinafter “Kozhukh”). Applicants respectfully traverse the rejection.

Amended claim 7 recites in pertinent part “***fabricating a micro-electrical-mechanical system (MEMS) device***” (emphasis added). Support for these changes can be found in Applicants’ Specification at paragraph [0030].

The Examiner asserts with respect to claim 7 that Schlitz teaches a method as applied to claims 1-4 above but lacks mentioning a machine-accessible medium. The Examiner cites Kozhukh to make up for this deficiency. Applicants respectfully disagree.

As discussed above with respect to claim 1, Applicants respectfully submit that Schlitz is not properly applied to claim 7 and/or fails to teach each and every element of claim 7 (semiconductor fabrication and planarization versus fabrication of micro-electrical-mechanical system (MEMS) devices maintaining their non-planar structure). Applicants respectfully submit that Kozhukh fails to make up for this deficiency. That is, Kozhukh fails to teach each and every element of claim 7 (fabrication of micro-electrical-mechanical system (MEMS) devices maintaining their non-planar structure). Accordingly, Applicants respectfully submit that Schlitz

in view of Kozhukh fails to teach or suggest each and every element of claim 7. Because Schlitz in view of Kozhukh fails to teach or suggest each and every element recited in claim 7, Applicants therefore respectfully submit that claim 7 is patentable over Schlitz in view of Kozhukh.

Claims 8-10 properly depend from claim 7, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claims 8-10 are patentable as well. (See MPEP §2143.03 (citing *In re Fine*.) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 7-10.

Rejection of Claim 11 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claim 11 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of Kozhukh in further view of Ledger. Applicant respectfully traverses the rejection. Claim 11 properly depends from claim 7, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claim 11 is patentable as well. (See MPEP §2143.03 (citing *In re Fine*.) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claim 11.

Rejection of Claim 12-13 and 16-17 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 12-13 and 16-17 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of U.S. Patent No. 5,015,602 to Van Der Plas et al. (hereinafter "Van Der Plas") in further view of U.S. Patent No. 5,155,053 to Atkinson (hereinafter "Atkinson"). Applicants respectfully traverse the rejection.

Amended claim 12 recites in pertinent part "***fabricating a micro-electrical-mechanical system (MEMS) device***" (emphasis added). Support for these changes can be found in Applicants' Specification at paragraph [0030].

As discussed above with respect to claim 1 and 7, Applicants respectfully submit that Schlitz is not properly applied to claim 12 and/or fails to teach each and every element of claim 12 (semiconductor fabrication and planarization versus fabrication of micro-electrical-

mechanical system (MEMS) devices maintaining their non-planar structure). Applicants respectfully submit that Van Der Plas fails to make up for this deficiency. That is, Van Der Plas in combination with Schlitz fails to teach each and every element of claim 12 (fabrication of micro-electrical-mechanical system (MEMS) devices maintaining their non-planar structure). Like Schlitz, Van Der Plas appears to be directed to planarization of a semiconductor device.

Applicants respectfully submit that Atkinson fails to make up for this deficiency. That is, the combination of Atkinson, Schlitz, and Van Der Plas fails to teach each and every element of claim 12 (fabrication of micro-electrical-mechanical system (MEMS) devices maintaining their non-planar structure). Atkinson appears to be directed to fabrication of a hard mask to transfer a small dimension to silicon during the fabrication of a microelectronic device. planarization of a semiconductor device. Accordingly, Applicants respectfully submit that Schlitz in view of Van Der Plas in further view of Atkinson fails to teach or suggest each and every element of claim 12. Because Schlitz in view of Van Der Plas in further view of Atkinson fails to teach or suggest each and every element recited in claim 12, Applicants therefore respectfully submit that claim 12 is patentable over Schlitz in view of Van Der Plas in further view of Atkinson.

Claims 13 and 16-17 properly depends from claim 12, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claims 13 and 16-17 are patentable as well. (See MPEP §2143.03 (citing *In re Fine*.)) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claim 12-13 and 16-17.

Rejection of Claims 14-15 Under 35 U.S.C. §103(a)

In paragraph 11, the Examiner rejected claims 14-15 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of Van Der Plas in view of Atkinson and in further view of U.S. Patent No. 5,112,602 to Banks et al. (hereinafter "Banks). Applicant respectfully traverses the rejection. Claims 14-15 properly depend from claim 12, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claims 14-15 are patentable as well. (See MPEP §2143.03 (citing *In re Fine*.)) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 14-15.

Rejection of Claim 18 Under 35 U.S.C. §103(a)

In paragraph 12, the Examiner rejected claim 18 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of Van Der Plas in view of Atkinson and in further view of Ledger. Applicant respectfully traverses the rejection. Claim 18 properly depends from claim 12, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claim 18 is patentable as well. (See MPEP §2143.03 (citing *In re Fine*.)) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claim 18.

Rejection of Claims 19-20 Under 35 U.S.C. §103(a)

In paragraph 13, the Examiner rejected claims 19-20 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of Van Der Plas in view of Atkinson as applied to claims 12-13 and 16-17 and in further view of Kozhukh. Applicant respectfully traverses the rejection.

Amended claim 19 recites in pertinent part “*fabricating a micro-electrical-mechanical system (MEMS) device*” (emphasis added). Support for these changes can be found in Applicants’ Specification at paragraph [0030].

As discussed above with respect to claim 12, the combination of Schlitz, Atkinson, and Van Der Plas fails to teach each and every element of claim 12. Also as discussed above with reference to claim 7, Kozhukh fails to make up for the deficiency. Thus, the combination of the combination of Schlitz, Atkinson, Van Der Plas, and Kozhukh fails to teach each and every element of claim 19 (fabrication of micro-electrical-mechanical system (MEMS) devices maintaining their non-planar structure). Accordingly, Applicants respectfully submit that Schlitz in view of Van Der Plas in further view of Atkinson in further view of Kozhukh fails to teach or suggest each and every element of claim 19. Because that Schlitz in view of Van Der Plas in further view of Atkinson in further view of Kozhukh fails to teach or suggest each and every element recited in claim 19, Applicants therefore respectfully submit that claim 19 is patentable over that Schlitz in view of Van Der Plas in further view of Atkinson in further view of Kozhukh.

Claim 20 properly depends from claim 19, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claim 20 is patentable as well. (See MPEP §2143.03 (citing *In re Fine*.)) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 19-20.

Rejection of Claims 21-22 Under 35 U.S.C. §103(a)

In paragraph 11, the Examiner rejected claims 21-22 under 35 U.S.C. §103(a) as unpatentable over Schlitz in view of Van Der Plas in view of Atkinson in view of Banks in further view of Kozukh. Applicant respectfully traverses the rejection. Claims 21-22 properly depend from claim 19, which applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claims 21-22 are patentable as well. (See MPEP §2143.03 (citing *In re Fine*.)) Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 21-22.

CONCLUSION

Applicants submit that all grounds for rejection have been properly traversed, accommodated, or rendered moot, and that the application is in condition for allowance. The Examiner is invited to telephone the undersigned representative if the Examiner believes that an interview might be useful for any reason.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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